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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,710	08/25/2003	Satoshi Yamaguchi	Q77132	9820
23373	7590	09/28/2004		
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			EXAMINER THORNTON, YVETTE C	
			ART UNIT 1752	PAPER NUMBER

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/646,710

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Yvette C. Thornton

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12042003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This is written in reference to application number 10/646710 filed on August 25, 2003 and published as US 2004/0152009 A1 on August 5, 2004.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The Information Disclosure Statement filed on December 4, 2003 has been entered and fully considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-11 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Akita et al. (US 2004/0018445 A1). Akita exemplifies in example 5 a photoresist composition comprising (A) Resin A1, which is a 2-ethyl-2-adamantyl methacrylate/p-hydroxystyrene (20:80) copolymer and Resin A2 which is a 2-ethyl-2-adamantyl methacrylate/p-hydroxystyrene (30:70) copolymer; (B) 2,6-diisopropylaniline as the quencher; (C) a solvent mixture and (D) an acid generator mixture of (B2) N-(butylsulfonyloxy)succinimide and (C3) 4-methylphenyldiphenylsulfonium 3,5-bis(2-cyclohexylethoxy)benzenesulfonate (p. 0267-0284). See also example 6 and comparative examples 3 and 4. It is the examiner's position that the taught resin A1 and A2 meet the limitations of the claimed resin having a structural unit derived from 2-alkyl-2-adamantyl (meth)acrylate [instant cl. 10] and

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p-hydroxystyrene [instant cl. 11]. The exemplified quencher meets the limitations of the claimed nitrogen-containing organic compound [instant cl. 13]. See also p. 0241-0250. The exemplified acid generator (C3) 4-methylphenyldiphenylsulfonium 3,5-bis(2-cyclohexylethyloxycarbonyl) benzenesulfonate meets the limitations of claimed formula (I) wherein X is ethylene, Cy1 is cyclohexyl [instant cl. 3] and A⁺ is a counter ion of formula (IIa) where P1 and P3 is hydrogen and P2 is an alkyl group having 1 carbon atom. Paragraphs 0171-0210 and 0224-0240 teach additional compounds which anticipate claimed formulae (I), (IIa) and (IIb) and instant claim 3. Akita further teaches that the taught invention may contain, as required, small amounts of various additives such as sensitizers, dissolution inhibitors, surfactants and stabilizers (p. 0252) [instant cl. 14].

5. The applied reference has a common inventor {Yamaguchi} with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akita et al. (US 2004/0018445 A1) as applied to claims 1-11 and 13-15 above, and further in view of Takata et al. (US 2003/0068573 A1). Akita teaches all the limitations of the claimed invention except it fails to teach an additional structural unit derived from 2-norbornene and a structural unit derived from an aliphatic unsaturated dicarboxylic anhydride as set forth in instant claim 12. Akita does however teach that if

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necessary further adding another monomer having an acid labile group and/or a monomer other that that can be carried out by conventional methods (p. 0027-0028). Takata teaches that a polymerization unit of 2-norbonerene manifests a property of excellent dry etching resistance. The said unit can be introduced into the main polymer chain by radical polymerization using an aliphatic unsaturated dicarboxylic anhydride such as maleic anhydride in addition to the corresponding 2-norbornene (p. 0107-0108). One of ordinary skill in the art would have been motivated by the teachings of Takata to use a combination of maleic anhydride and 2-norbornene to introduce into the polymer of Akita a 2-norbornene unit which serves to enhance dry etch resistance of the taught composition.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yvette C. Thornton whose telephone number is 571-272-1336. The examiner can normally be reached on Monday-Thursday 8-6:30.
9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Yvette Clarke Thornton
Primary Examiner
Art Unit 1752

yct
September 26, 2004